

PETREA MARTIANA var. GLABRESCENS Moldenke, var. nov.

Haec varietas a forma typica speciei foliis maturis supra glabrescentibus non scabris recedit.

This variety differs from the typical form of the species in having at least its mature leaf-blades glabrous or glabrescent and not at all scabrous or even scabrellous above.

The type of the variety was collected by Adolfo Ducke (no. 14291) "ad marginem silvae ultra flumen Curucambá" at Obidos, Pará, Brazil, on June 9, 1926, and is deposited in the Britton Herbarium at the New York Botanical Garden.

ADDITIONAL NOTES ON THE ERIOCAULACEAE. LVII

Harold N. Moldenke

In this, as in all previous installments of my series of "Additional Notes", the herbarium acronyms employed are those listed and explained by me in my "Fifth Summary 2: 795--801 (1971) and its supplements.

ERIOCAULACEAE Lindl.

Additional synonymy: Eriocaulaceae Mart., Nov. Act. Acad. Leopold.-Carol. Nat. Cur. 17 (1): 3 & 71. 1835. Eriocaulaceae (L. C. Rich.) A. Rich. ex Malme, Bih. Svensk Vet.-Akad. Handl. 27 (3), no. 11: 26. 1901.

Additional & emended bibliography: P. Herm., Mus. Zeyl., ed. 1, 7--8 & 20 (1717) and ed. 2, 57. 1726; Michx., Fl. Bor.-Am., ed. 1, imp. 1, 2: 165--166 & 335 (1803) and ed. 2, 2: 165--166 & 335. 1820; Bojer, Hort. Maurit. 361. 1837; Meisn., Fl. Vasc. Gen. 1: 406--407. 1842; Hook. f. & Benth. in Hook., Niger Fl. 547--548 & 582. 1849; Miq., Stirp. Surin. 221, pl. 65b. 1850; Miq., Naturk. Verh. Holl. Maatsch. Wet. Haarl., ser. 2, 7: pl. 65. 1851; F. Gerard, Nouv. Fl. Usuel. & Méd. 730. 1853; Welw., Apont. 542. 1858; Paine, Ann. Rep. Univ. N. Y. 18: [Pl. Oneida Co.] 146. 1865; Welw., Trans. Linn. Soc. Lond. 27 (1): 47, 75, & 90. 1869; Körn. in Warm., Vidensk. Meddel. Naturh. Foren. Kjöbenh. 23: [309]--316. 1871; V. A. Pouls., Vidensk. Meddel. Naturh. For. Kjöbenh. 40 [ser. 4, 9]: 221--283, pl. 6--12. 1888; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 53. 1900; Malme, Bih. Svensk Vet. Akad. Handl. 27 (3), no. 11: 26--33, pl. 2, fig. 3. 1901; N. L. Britton, Man., ed. 1, imp. 1, 236--238, 1067, 1068, & 1078 (1901) and ed. 1, imp. 2, 236--238, 1067, 1068, & 1078. 1902; Diels, Fl. Cent.-China 236. 1902; Post & Kuntze, Lexicon 8, 28, 51, 102, 175, 188--189, 203, 216, 219, 223, 293, 312, 328, 337, 361, 383, 412, 431, 445, 466, 476, 526, 536, 544, 546, 560, 563, 568, 569, & 596. 1904; J. C. Willis, Man. & Dict. Flow. Pl., ed. 2, 368 & 498. 1904; N. L. Britton, Man., ed. 2, 236--238, 1099,

& 1101 (1905) and ed. 3, 236--238, 1099, & 1101. 1907; J. C. Willis, Man. & Dict. Flow. Pl., ed. 3, imp. 1, 378 & 512. 1908; H. Lecomte, Bull. Soc. Bot. France 55: 571--573 (1908) and 55: 596 & 643--648. 1909; Dunn & Tutchner, Kew Bull. Misc. Inf. Addit. Ser. 10: 291--292. 1912; J. C. Willis, Man. & Dict. Flow. Pl., ed. 3, imp. 2, 378 & 512. 1914; Fedde & Schust. in Just, Bot. Jahresber. 46 (2): 3--5. 1924; Mattfeld in Just, Bot. Jahresber. 46 (1): 362. 1925; J. C. Willis, Dict. Flow. Pl., ed. 5, 250--251 & 481. 1925; Wangerin in Just, Bot. Jahresber. 46 (1): 402 (1925) and 46 (1): 810. 1926; Fedde & Schust. in Just, Bot. Jahresber. 47 (2): 12. 1926; Pittier, Man. Pl. Usuel. Venez. 344 & 441. 1926; Fedde in Just, Bot. Jahresber. 46 (2): 596 (1929) and 47 (2): 319. 1929; Fedde & Schust. in Just, Bot. Jahresber. 47 (2): 12. 1929; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 1, 250--251 & 481. 1931; J. Hutchinson, Fam. Flow. Pl., ed. 1, 2: 65--67 & 236, fig. 21. 1934; Moldenke, Phytologia 2: 142. 1946; Moldenke, Lilloa 13: 9--10. 1947; Moldenke, Phytologia 2: 418 & 511. 1948; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 2, 250--251 & 481 (1948) and ed. 6, imp. 3, 250--251 & 481. 1951; M. R. Henderson, Malay. Wild Fls. Monocot., imp. 1, 212, fig. 127. 1954; Petelot, Pl. Méd. Camb. Laos & Viet. 3: 267 (1954) and 4: 10, 49, 58, 113, 208, 209, & 295. 1954; Rohweder, Farinos. Veg. Salv. 16 & 179, pl. 6, fig. 29, 30, & 32 [thesis]. 1954; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 4, 250--251 & 481. 1955; Rohweder, Abhandl. Geb. Ausl. Univ. Hamb. 61 [C Naturwiss. 13]: 16 & 179, pl. 6, fig. 29, 30, & 31. 1956; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 5, 250--251 & 481. 1957; J. Hutchinson, Fam. Flow. Pl., ed. 2, 2: 574--576, fig. 364. 1959; Soukup, Biota 2: 300--303. 1959; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 6, 250--251 & 481. 1960; Anon., Pl. Highlands Hammock St. Park 4. 1962; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 53. 1963; Prain, Bengal Pl., imp. 2, 1: 121 (1963) and imp. 2, 2: 847--849 & 985. 1963; H. P. Riley, Fam. Flow. Pl. S. Afr. 199. 1963; J. Hutchinson, Gen. Flow. Pl. 1: 41 & 502. 1964; Punt, Reg. Veget. 36: 9. 1964; Shah & Patel, Bull. Bot. Surv. India 12: 27. 1970; Malhotra, Bull. Bot. Surv. India 13: 262. 1971; Malhotra & Moorthy, Bull. Bot. Surv. India 13: 314. 1971; Saxena, Bull. Bot. Surv. India 13: 89. 1971; Shetty & Vivekanathan, Bull. Bot. Surv. India 13: 21, 23, & 40. 1971; Stieber, Castanea 36: 277. 1971; Vajravelu & Joseph, Bull. Bot. Surv. India 13: 271. 1971; Frohne & Jensen, System. Pflanzenr. 218, 263, & 290. 1973; Hartley, Dunstone, Fitzgerald, Johns, & Lamberton, Lloydia 36: 235. 1973; Hocking, Excerpt. Bot. A.21: 211. 1973; J. Hutchinson, Fam. Flow. Pl., ed. 3, 32, 632, 636, 638--642, 648, [655], 657, 710--712, 916, 920, 923, 930, 939, 940, 944, 949, 951, 956, 957, 962, 964, & 967, fig. 364 & 364a. 1973; Vartak, Bull. Indian Nat. Sci. Acad. 45: 249. 1973; H. Walt., transl. Wieser, Veget. Earth [Heidelb. Sci. Lib. 15:] 77 & 234. 1973; Anon., Biol. Abstr. 58 (7): B.A.S.I.C. E.108 & E.222. 1974; Ayensu, Rep. Endang. & Threat. Pl. Sp. 56, 81, 107, 127, 130, 142, 143, 148, & 151. 1974; El-Gazzar, Egypt. Journ. Bot. 17: 82. 1974; Farnsworth, Pharmacog. Titles 9 (1): x. 1974; R. D. Gibbs, Chemotax. Flow. Pl. 2: 1122 (1974), 3: 1877, 1880--1883, 1886, 1887, 1894--1896,

1911, & 1914 (1974), and 4: 2118—2219. 1974; Greenslet in Foley, Herbs for Use & Delight [192]. 1974; M. R. Henderson, Malay. Wild Fls. Monocot., imp. 2, 212, fig. 127. 1974; Hocking, Excerpt. Bot. A.23: 290—293 & 314. 1974; Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 71: [80]—84, fig. 1—19. 1974; León & Alain, Fl. Cuba, imp. 2, 1: 278—284, 423, 426, 428, & 435—436, fig. 112 & 113. 1974; Lieth, Phenol. & Season. Model. 444. 1974; Michx., Fl. Bor.-Am., ed. 1, imp. 2, 2 [Ewan, Class. Bot. Am. 3]: 165—166 & 335. 1974; Moldenke, Biol. Abstr. 57: 3780 (1974) and 58: 3844. 1974; Shah & Yogi, Journ. Bombay Nat. Hist. Soc. 71: 62. 1974; Soukup, Biota 10: 231. 1974; J. A. Steyerma., Biotropica 6: 7 & 10. 1974; Widder, Excerpt. Bot. A.24: 329. 1974; Anon., Naturalists Directory 42: 60. 1975; Anon., Off. Staff Publ. N. Y. Bot. Gard. Addend. 2. 1975; Anon., Taxon 24: 173. 1975; Asher, Guide Bot. Period. 2 (8): 54. 1975; D. S. & H. B. Correll, Aquat. & Wetland Pl. SW. U. S., imp. 2, 1: 21 & 588—[594], fig. 301—304 (1975) and 2: 1751. 1975; Duncan & Foote, Wildfls. SE. U. S. 3, 5, 240, [241], 286, & 287. 1975; R. & A. Fitter, Wild Fls. Brit. & N. Eu. 260, 261, & 330. 1975; Jaeger & Moldenke, Phytologia 30: 405. 1975; Marquis, Who's Who East, ed. 15, 503. 1975; Moldenke, Biol. Abstr. 59: 6926 & 6934. 1975; Moldenke, Phytologia 30: 15—62, 71—125, 251—280, 317—343, 506—509, 511, & 512 (1975), 31: 26, 27, 229, 232, 233, 360, 374—376, 378—392, 396—398, 400, & 402—408 (1975), and 32: 47 & 336. 1975; Molina R., Ceiba 19: 24. 1975; Shah, Biol. Abstr. 59: 6329. 1975.

The Lecomte reference in the above bibliography is sometimes cited as "1908", but the "Index Kewensis" dates the latter pages of this volume as published in 1909, although the papers themselves were presented in sessions of the society held in the latter months of 1908. The Endlicher (1836) reference is often cited as "1836—1856", but the pages involved here were actually issued in 1836. The Meisner (1842) reference is sometimes cited as "1836—1843", but the pages here involved were issued in 1842.

According to Hutchinson (1959) the family is also referred to in Vol. 1, p. 30, of his 1959 work, but I fail to find it mentioned on that page. The Fitter work, also cited above, is dated "1974", but was not actually published until February 17, 1975. Malme's work (1901) is sometimes erroneously cited as "1903".

Gibbs (1974) found silica-bodies in one species of this family and p-coumaric acid, sinapic acid, ferulic acid, and flavanols also present.

Riley (1963) comments that "the family seems to be of no particular importance economically". The sale of dried Syngonanthus inflorescences in Brazil is, in fact, the only economic use I know of for members of the group.

BLASTOCAULON Ruhl.

Additional & emended bibliography: J. Hutchinson, Fam. Flow. Pl., ed. 1, 2: 67 & 234 (1934) and ed. 2, 2: 576 & 749. 1959; Hocking, Excerpt. Bot. A.21: 211. 1973; Moldenke, Phytologia 29: 281 (1974) and 30: 85 & 506. 1975.

ELASTOCAULON RUPESTRE (G. Gardn.) Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.21: 211. 1973; Moldenke, Phytologia 29: 82 (1974) and 30: 85. 1975.

CARPTOTEPALA Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.21: 211. 1973; J. Hutchinson, Fam. Flow. Pl., ed. 3, 710. 1973; Moldenke, Phytologia 29: 281 & 506. 1974.

CARPTOTEPALA JENMANI (Gleason) Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.21: 211. 1973; Moldenke, Phytologia 29: 82. 1974.

COMANTHERA L. B. Sm.

Additional & emended bibliography: Moldenke, Phytologia 2: 371-373 & 381 (1947) and 3: 32 & 42. 1948; Moldenke, Alph. List Cit. 4: 984. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 65, 66, 90, 203, & 212. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 244. 1953; J. Hutchinson, Fam. Flow. Pl., ed. 2, 2: 576 & 755. 1959; Tamayo, Bol. Soc. Venez. Cienc. Nat. 22: 41, 88, & 149. 1961; Hocking, Excerpt. Bot. A.21: 211. 1973; J. Hutchinson, Fam. Flow. Pl., ed. 3, 710. 1973; Heslop-Harrison, Ind. Kew. Suppl. 15: 34. 1974; Moldenke, Phytologia 29: 281 & 506. 1974.

COMANTHERA KEGELIANA (Körn.) Moldenke

Additional & emended bibliography: Moldenke, Phytologia 2: 371-373 & 381 (1947) and 3: 32 & 42. 1948; Moldenke, Alph. List Cit. 4: 984. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 65, 66, 90, 203, & 212. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 244. 1953; Tamayo, Bol. Soc. Venez. Cienc. Nat. 22: 41, 88, & 149. 1961; Heslop-Harrison, Ind. Kew. Suppl. 15: 34. 1974; Moldenke, Phytologia 29: 82-83. 1974.

The illustration given by Tamayo (1961), p. 149, labeled "Syngonanthus akurimensis Moldenke" [a synonym of Comanthera kegeliana] actually represents typical Syngonanthus caulescens (Poir.) Ruhl. It obviously is not a photograph of Tamayo 3234 on which S. akurimensis was based.

ERIOCAULON Gron.

Additional synonymy: Randia Petiv. apud Lam., Encycl. Méth. Bot. 3: 276, in syn. 1789. Eriocaulum Hook. f. ex Post & Kuntze, Lexicon 203, in syn. 1904. Eriocaulon [Gronovius] L. apud J. D. Small, Fl. Miami 37. 1913. Eriocaulon Mart. ex Moldenke, Résumé 285, in syn. 1959. Eriocaulon N. E. Br. ex Moldenke, Phytologia 31: 397, in syn. 1975.

Additional & emended bibliography: Lam., Encycl. Méth. Bot. 3: 275-276. 1789; Michx., Fl. Bor.-Am., ed. 1, imp. 1, 2: 165-166 & 335 (1803) and ed. 2, 2: 165-166 & 335. 1820; Bojer, Hort. Maurit. 361. 1837; Meisn., Pl. Vasc. Gen. 1: 407. 1842; Hook. f. & Benth. in Hook., Niger Fl. 547-548 & 582. 1849; Paine, Ann. Rep. Univ. N. Y. 18: [Pl. Oneida Co.] 146. 1865; Körn. in Warm.,

Vidensk. Meddel. Naturh. Foren. Kjöbenh. 23: 315—316. 1871; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 53. 1900; Diels, Fl. Cent.-China 236. 1902; Post & Kuntze, Lexicon 51, 203, 216, 328, 383, 476, 526, 544, & 569. 1904; J. C. Willis, Man. & Dict. Flow. Pl., ed. 2, 368 (1904) and ed. 3, imp. 1, 378. 1908; H. Lecomte, Bull. Soc. Bot. France 55: 571—573 (1908) and 55: 594, 595, 599, 601, & 643—648. 1909; Dunn & Tutchner, Kew Bull. Misc. Inf. Addit. Ser. 10: 291—292. 1912; J. C. Willis, Man. & Dict. Flow. Pl., ed. 3, imp. 2, 378. 1914; Fedde & Schust. in Just, Bot. Jahresber. 46 (2): 3. 1924; J. C. Willis, Dict. Flow. Pl., ed. 5, 251. 1925; Wangerin in Just, Bot. Jahresber. 46 (2): 402 (1925) and 46 (1): 810. 1926; Fedde & Schust. in Just, Bot. Jahresber. 47 (2): 12 (1926) and 47 (2): 12. 1929; Fedde in Just, Bot. Jahresber. 46 (2): 596 (1929) and 47 (2): 319. 1929; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 1, 251. 1931; J. Hutchinson, Fam. Flow. Pl., ed. 1, 2: 67 & 236. 1934; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 2, 251 (1948) and ed. 6, imp. 3, 251. 1951; M. R. Henderson, Malay. Wild Fls. Monocot., imp. 1, 212, fig. 127. 1954; Petelot, Pl. Méd. Camb. Laos & Viet. 3: 267 (1954) and 4: 10, 49, 58, 113, 208, 209, & 295. 1954; Rohweder, Farinos. Veg. Salv. 16. 1954; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 4, 251. 1955; Darlington & Wylie, Chromos. Atlas, ed. 2, imp. 1, 340. 1956; Rohweder, Abhandl. Geb. Ausl. Univ. Hamb. 61 [C Naturwiss. 13]: 16. 1956; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 5, 251. 1957; J. Hutchinson, Fam. Flow. Pl., ed. 2, 2: 576 & 760. 1959; Soukup, Biota 5: 300—301. 1959; J. C. Willis, Dict. Flow. Pl., ed. 6, imp. 6, 251. 1960; Anon., Pl. Highlands Hammock St. Park 4. 1962; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 53. 1963; Prain, Bengal Pl., imp. 2, 2: 847—849 & 985. 1963; H. P. Riley, Fam. Flow. Pl. S. Afr. 199 & 260. 1963; Punt, Reg. Veget. 36: 9. 1964; Malhotra, Bull. Bot. Surv. India 13: 262. 1971; Malhotra & Moorthy, Bull. Bot. Surv. India 13: 314. 1971; Saxena, Bull. Bot. Surv. India 13: 89. 1971; Shetty & Vivekanathan, Bull. Bot. Surv. India 13: 21, 23, & 40. 1971; Vajravelu & Joseph, Bull. Bot. Surv. India 13: 271. 1971; Hartley, Dunstone, Fitzgerald, Johns, & Lamberton, Lloydia 36: 294. 1973; Hocking, Excerpt. Bot. A.21: 211. 1973; Vartak, Bull. Indian Nat. Sci. Acad. 45: 249. 1973; H. Walt., transl. Wieser, Veget. Earth [Heidelb. Sci. Lib. 15:] 77 & 234. 1973; Anon., Biol. Abstr. 58 (7): B.A.S.I.C. E.108 & E.222. 1974; Ayensu, Rep. Endang. & Threat. Pl. Sp. 56, 107, 143, & 151. 1974; Farnsworth, Pharmacog. Titles 9 (1): x. 1974; R. D. Gibbs, Chemotax. Flow. Pl. 2: 1122 (1974), 3: 1883 (1974), and 4: 2119. 1974; M. R. Henderson, Malay. Wild Fls. Monocot., imp. 2, 212, fig. 127. 1974; Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 71: [80]—84, fig. 1—19. 1974; León & Alain, Fl. Cuba, imp. 2, 1: 279—281, fig. 112. 1974; Lieth, Phenol. & Season. Model. 444. 1974; Michx., Fl. Bor.-Am., ed. 1, imp. 2, 2 [Ewan, Class. Bot. Am. 3]: 165—166 & 335. 1974; Moldenke, Biol. Abstr. 57: 3780. 1974; Shah & Yogi, Journ. Bombay Nat. Hist. Soc. 71: 62. 1974; J. A. Steyerma., Biotropica 6: 7 & 10. 1974; Anon., Taxon 24: 173. 1975; D. S. & H. B. Correll, Aquat. & Wetland Pl. SW. U. S., imp.

2, 1: 588--593, fig. 301--303 (1975) and 2: 1751. 1975; Duncan & Foote, Wildfls. SE. U. S. 3, 240, [241], 286, & 287. 1975; R. & A. Fitter, Wild Fls. Brit. & N. Eu. 260, 261, & 330. 1975; Moldenke, Phytologia 30: 71--72, 77, 78, 81--83, 85, 90, 91, 99, 110, 111, 114, 115, 117, 118, 121, 122, 124, 252, 254--256, 259, 262--267, 269--275, 279, 280, 323, 329, 330, 332, 333, 337--339, & 341--343 (1975) and 31: 26, 229, 360, 375, 376, 378, 381, 383, 384, 388--391, 397, 398, 400, & 404. 1975; Molina R., Ceiba 19: 24. 1975; Shah, Biol. Abstr. 59: 6329. 1975.

The Lecomte (1909) reference in the above bibliography is sometimes cited as "1908", but according to the "Index Kewensis" the latter pages of this volume did not appear until 1909, although the material on them was presented in sessions of the society in 1908. The Endlicher reference (1836) is often cited as "1836-1856", but the page involved here was actually published in 1836. The Meisner reference (1842) is sometimes cited as "1836-1843", but the page involved here was actually issued in 1842. The Fitter work is dated "1974", but was not actually published until February 17, 1975. Malme's work (1901) is sometimes erroneously cited as "1903".

Pedde (1929) asserts that the genus is mentioned on page "827" of the work cited, but I have not been able to find it on that page.

It is worth noting that Post & Kuntze (1904) list a Section Eueriocolon Baill. as a synonymy of Section Eueriocalon Körn.

Gibbs (1974) reports that aluminum is doubtfully accumulated by plants of this genus, that saponins are absent or probably absent, tannins are absent, 6-hydroxyl-flavonol quercetagenin is present in some species but absent in others, patulin is present, and quercetin is present in at least one species; erioflavonol, he affirms, may also be present. Riley (1963) reports the sporophyte chromosome numbers for members of this genus as 32 & 36; Eriocaulon cinereum, however, is said to have 18 as the 2n count.

ERIOCAULON ABEYSSINICUM Hochst.

Additional bibliography: Hocking, Excerpt. Bot. A.21: 211. 1973; Moldenke, Phytologia 29: 87 & 231. 1974.

ERIOCAULON ACHITON Körn.

Additional bibliography: Venkatareddi, Bull. Bot. Surv. India 12: 220. 1970; Moldenke, Phytologia 29: 87. 1974.

Venkatareddi (1970) refers to this species as "Occasional", flowering in August and September, citing his no. 99102. Vartak found it growing on moist cliffs, flowering and fruiting in September.

The Schmid 80 from Annam, previously cited by me as E. achiton, appears, instead, to be E. boni H. Lecomte. If this is true, then E. achiton is not now known from Indochina.

Additional citations: INDIA: Maharashtra: Vartak RD.1 (Ld). Mysore: Bogner 494 (Mu).

ERIOCAULON ALPESTRE Hook. f. & Thoms.

Additional bibliography: Dunn & Tutcher, Kew Bull. Misc. Inf. Addit. Ser. 10: 292. 1912; Moldenke, Phytologia 29: 88 & 221. 1974.

ERIOCAULON ALPINUM Van Royen

Additional bibliography: Moldenke, Phytologia 25: 233 & 247. 1973.

Croft & Lelean refer to this plant as being an herb having "medium-green leaves and brown inflorescences, forming hard cushions", in Papua. They encountered it at 3600 m. altitude, flowering in June.

Additional citations: NEW GUINEA: Papua: Croft & Lelean IAE. 61474 (W-2741753).

ERIOCAULON ANGUSTIFOLIUM Körn.

Additional bibliography: Moldenke, Phytologia 29: 89. 1974.

Hatschbach encountered this plant in "campo, nas rochas submersas de riacho", flowering and fruiting in May.

Additional citations: BRAZIL: Goiás: Hatschbach 36841 (Z).

ERIOCAULON AQUATICUM (J. Hill) Druce

Additional bibliography: Collett, Fl. Siml. 549. 1902; Knoche, Fl. Balear., ed. 1, 162 & 393. 1923; J. Hutchinson, Fam. Flow. Pl., ed. 2, 2: 760. 1959; Hocking, Excerpt. Bot. A.21: 211. 1973; R. D. Gibbs, Chemotax. Flow. Pl. 3: 1883 (1974) and 4: 2119. 1974; Knoche, Fl. Balear., ed. 2, 3: 162 & 393. 1974; Moldenke, Phytologia 29: 281-282 (1974) and 31: 388 & 397. 1975; Ross-Craig, Drawings Brit. Pl. Ind. 16. 1974; R. & A. Fitter, Wild Fls. Brit. & N. Eu. 260, 261, & 330. 1975.

Additional illustrations: J. Hutchinson, Fam. Flow. Pl., ed. 3, 712, fig. 364a. 1973; R. & A. Fitter, Wild Fls. Brit. & N. Eu. 260, 261, & 330. 1975.

Hutchinson (1959) says that this taxon is referred to in Vol. 1, p. 30, of his cited 1959 work, but I fail to find it mentioned there. The Fitter work cited above is dated "1974", but was not officially published until February 17, 1975.

Gibbs (1974) reports tannin present in this species, by cyanogenesis, leucoanthocyanin, and mucilage absent.

ERIOCAULON ARENICOLA Britton & Small

Additional bibliography: Moldenke, Phytologia 24: 343. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974.

Morton found this plant in flower and fruit in February.

Additional citations: ISLA DE PINOS: C. V. Morton 10076 (W-2351393).

ERIOCAULON ATRATUM Körn.

Additional bibliography: Moldenke, Phytologia 29: 85, 91-92, 98, 205, & 232 (1974) and 30: 124. 1975.

Emended citations: SRI LANKA: Jayasuriya & Sumithraarachchi 1567 (N); Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi

28271a (W-2765378), 28280 (W-2765386).

ERIOCAULON AUSTRALE R. Br.

Additional bibliography: Dunn & Tutchner, Kew Bull. Misc. Inf. Addit. Ser. 10: 291 & 292. 1912; Moldenke, Phytologia 29: 92 (1974) and 31: 391. 1975.

Latz describes this plant as an "erect broad-leaved sedge, rare" and found it growing in seepage areas of sandstone, flowering and fruiting in October. Dunlop found it growing in 10 cm. deep water of a freshwater pool in clay soil, flowering in April.

Additional citations: AUSTRALIA: Northern Territory: C. Dunlop 3448 (Ld). AUSTRALIAN ISLANDS: Wessel: Latz 3407 [Herb. North. Terr. 36931] (Z).

ERIOCAULON BAURI N. E. Br.

Additional synonymy: Eriocaulon baurii N. E. Br. ex Moldenke, Phytologia 31: 397, in syn. 1975.

Additional bibliography: Moldenke, Phytologia 29: 93 & 233 (1974) and 31: 397. 1975.

Bayliss encountered this plant in marshy ground and describes it as having "erect stems of white flowers in small clumps". He found it at 8000 feet altitude, flowering in January.

Additional citations: LESOTHO: Bayliss BS.5382 (N).

ERIOCAULON BENTHAMII Kunth

Additional bibliography: Moldenke, Phytologia 24: 346. 1972.

Hinton found this plant growing "by water", at altitudes of 1000--2510 meters, flowering in May.

The Edw. Palmer 44, Skutch 617, and Townsend & Barber 117, distributed as E. benthamii, seem, rather, to represent E. ehrenbergianum Klotzsch.

Additional citations: MEXICO: México: Hinton 627 (W-1822074), 3488 (W-1636282), 3638 (W-1822099), 4549 (W-1636296).

ERIOCAULON BIFISTULOSUM Van Heurck & Muell.-Arg.

Additional bibliography: Lieth, Phenol. & Season. Model. 444. 1974; Moldenke, Phytologia 29: 282. 1974.

Wingfield encountered this plant at 7110 feet altitude in Tanganyika. Malaisse (1974) asserts that in Zambia it flowers in February and March, while the very similar E. setaceum L. does not flower until May.

Material has been misidentified and distributed in some herbaria as E. setaceum L.

Additional citations: TANZANIA: Tanganyika: Wingfield 594 (N).

ERIOCAULON BILOBATUM Morong

Additional bibliography: Moldenke, Phytologia 26: 17--18. 1973.

Additional citations: MEXICO: Jalisco: Pringle 3855 (W-937181-isotype), 6299 (W-254686, W-937155).

ERIOCAULON BOMBAYANUM Ruhl.

Additional bibliography: Cooke, Fl. Presid. Bombay, ed. 1, 2: 850 (1908), ed. 2, imp. 1, 3: 362 (1958), and ed. 2, imp. 2, 3: 362. 1967; Moldenke, Phytologia 29: 94. 1974.

Cooke (1906) informs us that at the time of the writing of his Flora he had seen no specimens of this species and none were in the Kew herbarium.

ERIOCAULON BONI H. Lecomte

Additional bibliography: Moldenke, Phytologia 29: 94. 1974.

The Schmid 80, cited below and here illustrated, was previously erroneously cited by me as E. achiton Körn., a species which it closely resembles. It seems to me now, however, that it represents Lecomte's E. boni, a species hitherto known to me only from the original description. In the illustration presented herewith and drawn by Charles C. Clare, Jr., in October, 1975, the following is the legend: A - Habit; B - Flower-head; C - Involucral bractlet, exterior view; D - Receptacular bractlet, exterior view; E - Staminate floret, sepals removed; F - Sepal of staminate floret; G - Pistillate floret, sepals removed; H - Sepal of pistillate floret; J - Petal of pistillate floret; K - Gynoecium; L - Seed.

The specimen was collected on schist at about 400 meters altitude in the Dak Dam mountains, J. Jeng Drom region, southern Annam.

Additional citations: INDOCHINA: Annam: Schmid 80 (N, N--floral drawings, Z--floral drawings).

ERIOCAULON BREVISCAPUM Körn.

Additional bibliography: Woodr., Journ. Bomb. Nat. 13: 429. 1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 842 & 844 (1908), ed. 2, imp. 1, 3: 353 & 356 (1958), and ed. 2, imp. 2, 3: 353 & 356. 1967; Moldenke, Phytologia 29: 95 (1974) and 30: 262. 1975.

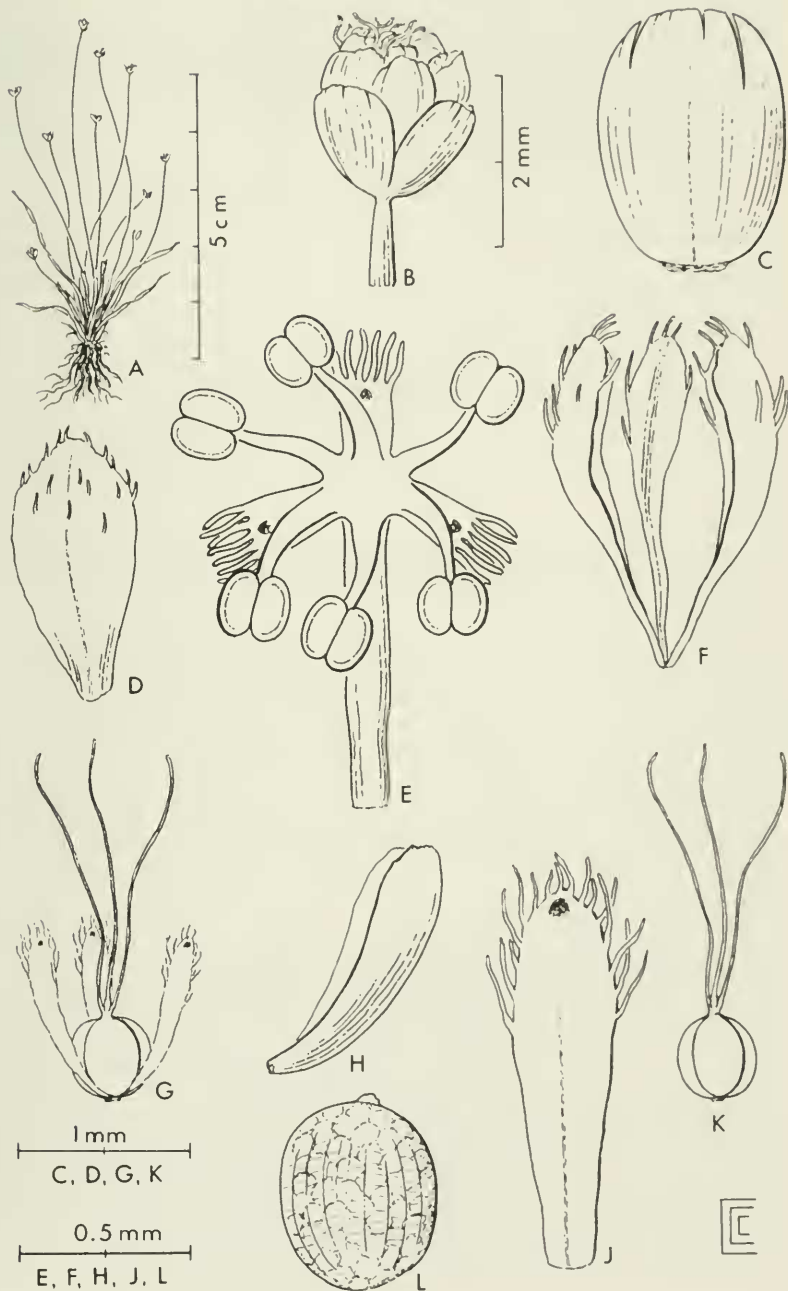
Cooke (1906) cites only Talbot 1379 & 1609 from Bombay and states that when he wrote his Flora there were only those two sheets representing the species in the Kew herbarium. He describes the species as "Rare" at 2000 feet altitude, flowering from December to February.

ERIOCAULON BROWNIANUM Mart.

Additional bibliography: J. Grah., Cat. Pl. Bomb. 231. 1839; Shetty & Vivekanathan, Bull. Bot. Surv. India 13: 23 & 40. 1971; Mani, Ecol. & Bioge gr. India [Illies, Monog. Biolog. 23:] 187 & 741. 1974; Moldenke, Phytologia 29: 282. 1974.

Cramer describes this plant as having "Heads flattened, up to 1.2 cm. in diameter, ashy-grey. Anthers grey" and found a "single tree [sic]" in the open "by drain along borders of tea field".

Additional citations: SRI LANKA: Cramer 3809 (W--2766818); Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28293 (E, W--2765401), 28296 (W--2765398); Sumithraarachchi & Jayasuriya DBS. 190 (Ld).



ERIOCAULON BROWNIANUM var. **LATIFOLIUM** Moldenke

Additional bibliography: Moldenke, *Phytologia* 29: 282. 1974.

Additional citations: SRI LANKA: Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28297 (W--2765397), 28306 (W--2765390).

ERIOCAULON BUEGERIANUM Körn.

Additional bibliography: Dunn & Tutcher, *Kew Bull. Misc. Inf. Addit. Ser.* 10: 292. 1912; Moldenke, *Phytologia* 29: 97. 1974.

ERIOCAULON CARAJENSE Moldenke

Additional bibliography: Moldenke, *Biol. Abstr.* 57: 3780. 1974; Moldenke, *Phytologia* 29: 98. 1974.

ERIOCAULON CARSONI F. Muell.

Additional bibliography: Moldenke, *Phytologia* 24: 349. 1972.

Henry describes this plant as an "erect herb with globular heads, rare in moist clay at edge of lagoon" and found it in flower and fruit in June.

Additional citations: AUSTRALIA: Northern Territory: N. Henry 125 (Ld, Z).

ERIOCAULON CEYLANICUM Körn.

Additional synonymy: Syngonanthus argenteus Benth., in herb.

Additional bibliography: Moldenke, *Phytologia* 29: 85, 86, 91, 98--99. 105. 205, & 232. 1974.

Cramer describes this plant as having "heads snowy white, up to 1.5 cm. in diameter" and encountered it in open marshy ground among short grass, at 2760 meters altitude, flowering in August, where, he says, it was "common". Koyama describes it as "white-headed pipeworts occasional in wet depressions in wet black Pata-na grasslands with Gentianella" and found it growing at 7000 feet, flowering in March.

The Koyama collection, cited below, was previously erroneously cited by me as E. dalzellii Körn.

Additional citations: SRI LANKA: Cramer 3133 (W--2718359); T. Koyama 13516 (N).

ERIOCAULON CINEREUM R. Br.

Additional synonymy: Eriocaulon seiboldianum Sieb. & Zucc. apud Saxena, *Bull. Bot. Surv. India* 12: 62, sphalm. 1970.

Additional & emended bibliography: Dalz. & Gibs., *Bomb. Fl.* 279. 1861; Woodr., *Journ. Bomb. Nat.* 13: 429. 1901; Collett, *Fl. Siml.* 549--550, fig. 180. 1902; Diels, *Fl. Cent.-China* 236. 1902; Cooke, *Fl. Presid. Bombay*, ed. 1, 2: 842 & 845--846. 1908; Dunn & Tutcher, *Kew Bull. Misc. Inf. Addit. Ser.* 10: 292. 1912; Cooke, *Fl. Presid. Bombay*, ed. 2, imp. 1, 3: 354 & 357--358. 1958; Prain, *Bengal Pl.*, imp. 2, 2: 848 & 985. 1963; Cooke, *Fl. Presid. Bombay*, ed. 2, imp. 2, 3: 354 & 357--358. 1967; Malhotra, *Bull. Bot. Surv. India* 13: 262. 1971; Moldenke, *Phytologia* 29: 282 (1974), 30: 279 & 280 (1975), and 31: 397. 1975.

Emended illustrations: Collett, *Fl. Siml.* 550, fig. 180. 1902.

Cooke (1906) cites only Stocks s.n. and Talbot 1290 from Bombay, giving the general distribution of the species as "Through-out India; Ceylon, China, Japan". In Bombay he reports it as being "Rare". Siddiqi, in his as yet unpublished discussion of the family in Pakistan, cites Burt & Kazmi B.1300 and Siddiqi s.n., both in the Rawalpindi herbarium, from Hazara and Kashmir in Pakistan, occurring as a weed in ricefields at 5000--6000 feet altitude, flowering in August and September. He records the chromosome count as $n = 9$. Henry describes it as a "small erect herb, globular heads, rare" and encountered it in moist clay at the edge of lagoons, flowering and fruiting in June. He comments truly that the species is "close to E. pygmaeum Soland." Elliott & Nakamine found it "common" in rice paddies on Okinawa, while in Australia Must found it as an herb to 5 cm. tall in sandy soil along roadsides, the white flowers appearing in May.

Additional citations: INDIA: Maharashtra: Vartak RD.28 (Ac). SRI LANKA: Moldenke, Moldenke, & Albert 28320 (W--2765411). RYUKYU ISLANDS: Okinawa: Elliott & Nakamine 628 (W--2591840A). AUSTRALIA: Northern Territory: N. Henry 126 [Herb. North. Terr. 31675] (Ac, Gz, Ld); Must 1212 (Ld).

ERIOCAULON CIPOENSE Alv. Silv.

Additional bibliography: Fedde & Schust. in Just, Bot. Jahresber. 46 (2): 3. 1924; Moldenke, Phytologia 29: 101. 1974.

ERIOCAULON COLLINUM Hook. f.

Additional bibliography: Shetty & Vivekanathan, Bull. Bot. Surv. India 13: 40. 1971; Vajravelu & Joseph, Bull. Bot. Surv. India 13: 271. 1971; Mani, Ecol. & Biogeogr. India [Illies, Monog. Biolog. 23:] 187 & 741. 1974; Moldenke, Phytologia 29: 282. 1974.

Sumithraarachchi & Waas encountered this plant in a permanent pool of water, most parts of the plant covered by the water. Shetty & Vivekanathan (1971) report it as "common in marshy places in grassland" and also as "rare" in the same habitat elsewhere, at 2000--2075 meters altitude, flowering in April and November, and cite their nos. 26484 & 27403. Vajravelu & Joseph (1971) describe it as a "Small herb in tufts in marshy places, peduncles few to many, heads globose, ashy black" and cite their no. 16189.

Additional citations: SRI LANKA: Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28271 (W--2765415), 28272 (W--2765377), 28283 (W--2765384), 28287 (E, W--2765380), 28307 (E, W--2765391); Sumithraarachchi & Jayasuriya DBS.205 (Z), DBS.264 (Z).

ERIOCAULON COLLINUM var. NANUM Moldenke

Additional bibliography: Moldenke, Phytologia 29: 102. 1974.

Additional citations: SRI LANKA: Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28284 (W--2765383).

ERIOCAULON COMPRESSUM Lam.

Additional & emended bibliography: Michx., Fl. Bor.-Am., ed. 1, imp. 1, 2: 165 (1803), ed. 2, 2: 165 (1820), and ed. 1, imp. 2, 2

[Ewan, Class Bot. Am. 3]: 165. 1974; Moldenke, Phytologia 29: 282 & 286 (1974) and 30: 57 & 255. 1975; D. S. & H. B. Correll, Aquat. & Wetland Pl. SW. U. S., imp. 2, 1: 590-592, fig. 302 (1975) and imp. 2, 2: 1751. 1975.

The Porters report this plant as common on the wet sandy banks of canals in cypress swamps.

Additional citations: FLORIDA: Lake Co.: Porter & Porter 10770 (N).

ERIOCAULON COMPRESSUM var. HARPERI Moldenke

Additional bibliography: Moldenke, Phytologia 29: 104. 1974.

Additional citations: FLORIDA: Wakulla Co.: Moldenke & Moldenke 29408 (Gz, Ld).

ERIOCAULON CRASSISCAPUM Bong.

Additional bibliography: Körn. in Warm., Vidensk. Meddel. Nat.-urh. Foren. Kjöben. 23: 315. 1871; Malme, Bih. Svensk Vet.-Akad. Handl. 27 (3), no. 11: 32. 1901; Moldenke, Phytologia 29: 90 & 105 (1974) and 30: 269. 1975.

Körnicker (1871) cites Warming s.n. from "In ripas ad lacum Lagoa Santa, Februario", while Malme (1901) cites Lindberg 570, Mosén 1738, and Regnell III:1269 from Minas Gerais, Brazil. Malme's work is sometimes erroneously cited as "1903".

ERIOCAULON CRISTATUM Mart.

Additional bibliography: Dunn & Tutchner, Kew Bull. Misc. Inf. Addit. Ser. 10: 292. 1912; Moldenke, Phytologia 29: 282 (1974) and 31: 389 & 390. 1975.

ERIOCAULON CRISTATUM var. BREVICALYX C. H. Wright

Additional bibliography: Moldenke, Phytologia 24: 352--353 (1972) and 31: 390. 1975.

Hu encountered this plant "on rocks of slow-flowing stream, in bright sun" and describes it as having a "rhizome 5--10 cm. long, forming a mat over the rock surface". He found it in flower in November, but misidentified it as *Eriocaulon setaceum* L.

Citations: HONGKONG ISLANDS: High: S. Y. Hu 8906 (W-2731343).

ERIOCAULON CUBENSE Ruhl.

Additional bibliography: León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974; Moldenke, Phytologia 29: 105. 1974.

ERIOCAULON CUSPIDATUM Dalz.

Additional bibliography: Woodr., Journ. Bomb. Nat. 13: 429. 1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 842 & 847--848 (1908), ed. 2, imp. 1, 3: 354 & 359--360 (1958), and ed. 2, imp. 2, 3: 354 & 359--360. 1967; Moldenke, Phytologia 29: 106. 1974.

Cooke (1908) cites Dalzell s.n., Law s.n., Stocks s.n., and Talbot 1083 from Bombay, where he says the species flowers in November. He gives its general distribution as only "India (W. Peninsula)".

[to be continued]